

## Electrical Conductivity of Metals

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The table originally appeared in AMM's annual *Metal Statistics* book.

Metal	Relative Conductivity*	Temperature Coefficient of Resistance**	Tensile Strength (lbs./sq. in.)	Composition of Earth's Crust (% by Weight)
Aluminum (2S; pure)	59	0.0039	30,000	8.1
Aluminum (alloys):				
• Soft-annealed	45-50	—	—	—
• Heat-treated	30-45	—	—	—
Brass	28	0.002-0.007	70,000	—
Cadmium	19	0.0038	—	.0001
Chromium	55	—	—	.02
Climax	1.83	0.0007	150,000	—
Cobalt	16.3	0.0033	—	.002
Constantin	3.24	0.00001	120,000	—
Copper:				
Hard drawn	89.5	0.00382	60,000	—
• Annealed	100	0.00393	30,000	.007
Everdur	6	—	—	—
Gold	65	0.0034	20,000	.0000005
Iron:				
• Pure	17.7	0.005	—	5.0
• Cast	2-12	—	—	—
• Wrought	11.4	—	—	—
Lead	7	0.0039	3,000	.002
Magnesium	—	0.004	33,000	2.1
Manganin	3.7	0.00001	150,000	—
Mercury	1.66	0.00089	0	.00005
Molybdenum	33.2	0.004	—	.001
Monel	4	0.002	160,000	—
Nichrome	1.45	0.0004	150,000	—
Nickel	12-16	0.006	120,000	.008
Nickel silver (18%)	5.3	0.00014	150,000	—
Phosphor bronze	36	0.0018	25,000	—
Platinum	15	0.003	55,000	.0000005
Silver	106	0.0038	42,000	.00001
Steel	3-15	0.004-0.005	42,000-230,000	—
Tin	13	0.0042	4,000	.004
Titanium	5	—	50,000	.4
Titanium, 6A14V	5	—	130,000	—
Tungsten	28.9	0.0045	500,000	.007
Zinc	28.2	0.0037	10,000	.01

\* At 20° Celsius, based on copper as 100.

\*\* Per degree C at 20° C.

Note: The conductivity of various metals is subject to variation according to processing and alloy composition.